

REMARKS/ARGUMENTS

This application has been reconsidered carefully in light of the Office Action dated as mailed on 07 February 2007. A careful reconsideration of the application by the Examiner in light of the foregoing amendments and the following remarks is respectfully requested.

5 This response is timely filed as it is filed within the three (3) month shortened statutory period for response to the outstanding Office Action.

This response is also accompanied with a check and/or authorization to charge deposit account for any additional claim fee due as a result of this Amendment because either the number of independent claims exceeds the number of independent 10 claims for which fees have previously been paid, the total number of claims exceeds the total number of claims for which fees have previously been paid, or both.

Amendments to the Claims

By the above,

15 1. independent claims 1 and 18 have each been respectfully rewritten for improved form and to more clearly define the invention which Applicants regard as their invention,

2. dependent claims 2-6 and 19-21 have each been rewritten in view of the respective rewritten underlying independent claim, and

3. claims 30 and 31 have been added to more fully and completely claim the disclosed subject matter.

More particularly, and consistent with the examples in the application at pages 22-26, independent claims 1 and 18 have each been rewritten to clarify that the fuel is selected from a group consisting of metals, metal hydrides and metalloids and to make clear that the blowing agent decomposes such that the porous igniter substance is free of the blowing agent. Claim 1 has been further rewritten to require that the claimed composition include at least 15 composition weight percent of fuel material. Such rewritten claims find further support in the original specification such as at page 11, line 12 through page 12, line 7.

Newly added claims 30 and 31 each require that the “the igniter substance comprises a coating on the associated inflator apparatus surface”. Support for the igniter substance comprises a coating on the associated inflator apparatus surface can be found throughout the originally filed application such as at page 9, lines 6-14, for example.

No new matter has been added to the claims by this Amendment.

Election/Restrictions

From the outstanding Office Action it is understood that claims 5, 6 and 22 have been rejoined and claims 7 and 8 remain withdrawn, the Examiner having

now provided a statement explaining why there would be a serious burden on the Examiner if restriction was not required.

Claims 1-31 are pending in the application, with claims 7, 8, 16, 17 and 25 having been previously withdrawn from consideration. Moreover, in view of the above rewriting of the claims, claim 6 appears to be no longer encompassed by the earlier elections.
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Telephone Interview Summary

As a preliminary matter, the undersigned wishes to thank Examiner Gellner for his comments and many courtesies extended during the above-identified 10 telephonic interview.

Matters discussed in the referenced interview included the outstanding rejection of claim 1 based on U.S. Patent 5,883,330 to Yoshida (hereinafter "Yoshida") in view of U.S. Patent 6,083,331 to Taylor et al. (hereinafter "Taylor"). In particular it was noted that no reference discloses the composition of claim 1 and further it was argued that there has been no proper showing of motivation to combine the cited references in the manner done in the Office Action to arrive at the claimed invention. While no agreement was reached that the claims under consideration would clearly distinguish over the prior art of record, the Examiner agreed to take the arguments under advisement.
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Claim Rejections - 35 U.S.C. §103

1. **Claims 1-6, 11-14, 18 and 26-29 (and presumably claims 19-23) were rejected under 35 U.S.C. §103(a) as being unpatentable over Yoshida in view of Taylor.**

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Such rejections are respectively traversed to the extent they may be sought to be applied to the present claims.

As previously submitted, it is noted that Yoshida is directed to **gas generating compositions** essentially containing a nitrogen-containing organic compound and an oxygen-containing inorganic oxidizing agent. (See Yoshida, Title, column 1, lines 5-11 and column 3, lines 16-21, for example.) In sharp contrast thereto, the subject invention development is directed to **ignition compositions** and, in particular, to ignition compositions which are applicable onto an associated inflator apparatus surface to form an igniter substance having a surface area, wherein upon the igniter substance being heated to a predetermined temperature, the blowing agent decomposes, forming a porous igniter substance free of the blowing agent and comprising the fuel material, the oxidizer and the binder, the porous igniter substance having an increased surface area as compared to the igniter substance prior to decomposition of the blowing agent.

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Those skilled in the art will readily appreciate that compositions for gas generation and compositions for ignition are distinct materials, each having their own particular performance and operational characteristics and/or parameters. In

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particular, gas generating compositions are designed to rapidly produce a large quantity of inflation gas desirably at as low a temperature as possible. In contrast, ignition compositions are designed to provide a high temperature output in the form of heated gases and particles such as to rapidly ignite an associated gas generating material. Thus, as such compositional inclusion of metal fuels are known in the art to result in the production or formation relatively large amounts of heat, such heat production is neither sought nor desired in gas generant compositions for inflation gas applications.

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While the Action acknowledges that Yoshida does not disclose the inclusion of a metal fuel, the Action cites Taylor as disclosing a metal fuel of Al, Mg, or an alloy of Al and Mg with an organic fuel and contends that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the composition of Yoshida by adding a metal fuel of an alloy of Al and Mg so as to adjust burn rate."

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While Taylor does disclose the possible inclusion of metallic fuel materials in the gas generating material thereof such as to increase the combustion temperature of the resulting composition (column 4, lines 12-17 and 27-30), Taylor clearly limits the relative amount of such materials in the gas generating materials to which Taylor is directed. Thus, Taylor specifically discloses:

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When included, the powders of silicon, aluminum, boron, alloys of aluminum and magnesium alloys and combinations thereof may generally desirably be present in **an amount of up to about 5% of the total gas generant composition.** [Column 4, lines 39-43, emphasis added.]

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To further highlight the significance of the distinction between ignition compositions (as claimed) and gas generating compositions (as disclosed in Yoshida and Taylor), independent claim 1 has been rewritten to require the inclusion of the metals, metal hydrides, metalloids fuel material in a relative amount of at least about 15 weight percent, on a composition basis. Independent claim 18 already requires that the claimed ignition composition comprise “about 15 to about 50 composition weight percent” of fuel material, the fuel material including at least one of a group consisting of metals, metal hydrides and metalloids.”

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It is respectfully submitted that ignition compositions including metal, metal hydride, metalloid fuel materials in a relative amount of at least about 15 weight percent are not shown or suggested by Yoshida and Taylor, either or alone or in combination.

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Additionally, claims 1 and 18 have each been rewritten to clarify that the ignition composition is applicable onto an associated inflator apparatus surface to form an igniter substance having a surface area, and that upon the igniter substance being heated to a predetermined temperature, the blowing agent decomposes, to form

the porous igniter substance. Further, rewritten claims 1 and 18 make clear that the porous igniter substance is free of the blowing agent.

This is in clear contrast to the disclosure of Yoshida wherein the nitrogen-containing organic compounds (e.g., aminoguanidine and azodiocarbonamide) are essential components of the final gas generating composition thereof.

In view of the above, claims 1, 18 and the claims dependent thereon are believed to be patentable over the combination of Yoshida and Taylor and notification to that effect is solicited.

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2. **Claims 9, 10 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Yoshida in view of Taylor and further in view of U.S. Patent 5,608, 182 to Thompson et al. (hereinafter "Thompson").**

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Claims 9 and 10 are dependent on claim 1. Claim 24 is dependent on claim 18. As the proposed further combination of Thompson with Yoshida and Taylor does not overcome the above discussed deficiencies of Yoshida and Taylor relative to claim 1 and 18, these dependent claims are believed to be allowable over the proposed combination of Yoshida, Taylor and Thompson and notification to that effect is solicited.

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3. **Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Yoshida in view of Taylor and further in view of U.S. Patent 6,334,961 B1 to Wheatley et al. (hereinafter “Wheatley”).**

5 Claim 15 is dependent on claim 1. As the proposed further combination of Wheatley with Yoshida and Taylor does not overcome the above discussed deficiencies of Yoshida and Taylor relative to claim 1, claim 15 is believed to be allowable over the proposed combination of Yoshida, Taylor and Wheatley and notification to that effect is solicited.

10 **Withdrawn Claims**

Claims 6-8, 16 and 17 are dependent on claim 1 and claim 25 is dependent on claim 18. As submitted above, claims 1 and 18 are each believed to be patentable over the prior art of record and as such in condition for allowance. In view thereof, previously withdrawn claims 7, 8, 16, 17 and 25, as well as claim 6, are also believed to be in condition for allowance and notification to that effect is solicited.

15 **Newly Added Claims**

20 Claim 30, dependent on claim 1, and claim 31, dependent on claim 18, have been added. As claims 1 and 18 are believed to be patentable over the prior art of record for at least the reasons discussed above, these dependent claims are also believed to be patentable over the prior art of record and notification to that effect is solicited.

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Claims 30 and 31 further require the igniter substance comprises a coating on the associated inflator apparatus surface. Such an igniter substance coating is nowhere shown or suggest by the cited prior art. Thus, these claims are believed to be further patentable thereover.

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Conclusion

In view of the above, all pending claims are believed to be in condition for allowance and notification to that effect is solicited. However, should the Examiner detect any remaining issue or have any question, the Examiner is kindly requested to contact the undersigned, preferably by telephone, in an effort to expedite examination of the application.

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Respectfully submitted,



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